Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application:

Claims 1 to 17 (Cancelled)

18. (Currently Amended) A mold system of a type for dies and molding of articles and requiring heat to be taken from the mold from time to time, wherein the mold includes at least one completely closed chamber [with] having air substantially removed therefrom to provide a closed system after [liquid] a single quantity of unchanged fluid is supplied to the mold and each said at least one completely closed chamber is provided with a single quantity of unchanged [liquid] fluid therein after the liquid portion of the fluid is supplied to the mold which extends to cover at least one of the areas from which heat is to be taken, and each of said at least one of such completely closed chamber being integrated with the mold and a space above the liquid portion of the single quantity of fluid and within the completely closed chamber in which pressure within the space is caused to be set at a level which will enable whenever there is a temperature differential between any two locations within the chamber, said single quantity of unchanged [liquid] fluid being fed through and guided by a first conduit communicating with said closed chamber and the liquid portion [a]the space above the liquid portion of single quantity of [liquid] fluid in said closed chamber and within each of said at least one completely closed chamber and a second conduit communicating with said first conduit and said closed chamber and the space above the liquid portion of the single quantity of [liquid] fluid to form a passageway for vapor of said single quantity of fluid to exit from and to be supplied from said completely closed chamber through said second conduit to a condensing or heat exchange means wherein pressure is at a level which is governed solely by the temperature of the single quantity of liquid portion of the [liquid] fluid [which therefore can] to boil at [any selected] the location with the higher temperature [when the temperature of the single quantity of water is higher than the temperature of the heat exchange means] and resultant vapor to condense at the location with the lower

temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature, and said single quantity of [liquid] fluid communicates with said condensing means to effect, by cooling, condensation of the vapor or vapors from the single quantity [liquid] fluid in the space flowing through said second conduit so that there is a saturated state of the vapor in the space, the single quantity of [liquid] fluid having a volume such that it has an upper level above one of the areas of the mold to be cooled and substantially only the vapor of the liquid within the chamber above the passageway and the upper level of the liquid portion so that the completely closed chamber keeps the same single quantity of [liquid] fluid [through]throughout the full cooling process and the total overall temperatures of the mold is kept relatively uniform and provides for effective heat transmission throughout the mold during the molding process and the vapor after passing through said condensing or heat exchange means returns by gravity as a liquid solely to said liquid in the mold through said first conduit.

19. (Currently Amended) A mold system as claimed in claim 18, wherein the chamber is shaped to follow the shape of molding surfaces and positioned so that all of the working surfaces of the mold are serviced equally by the [liquid] single quantity of unchanged fluid therein and the single quantity of unchanged [liquid] fluid will have effective access to each of the areas of the mold from which heat is to be taken and the same single quantity of unchanged [liquid] fluid flows back to the body of the liquid in the completely closed chamber whereby the temperature across the working surfaces of the mold is substantially uniform.

20. (Currently amended) A mold system as claimed in [either] claim 18, wherein the portion of the vapor only is within the space above said liquid portion in the chamber [above the liquid level] with the liquid portion [level] varying due to boiling of the liquid to thereby achieve a substantially uniform temperature profile across the working surfaces of the mold.

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Currently Amended) A mold arrangement including a mold and a condensing/heat exchanger means within the mold arrangement, said mold having an internal cooling arrangement which is a completely closed chamber having air substantially removed therefrom and having therein a single quantity of [liquid[fluid with a volume such that it has a liquid portion with an upper level in said completely closed chamber above at least some of the areas of the mold to be cooled and has substantially only the vapor or vapors in a space within the chamber above the upper level of said liquid portion [within the chamber] above the top of the liquid portion and said condensing/heat exchange means using the same single quantity [liquid] of fluid to effect, by cooling, condensation of the vapor or vapors of the liquid, said completely closed chamber being integrated with the mold, and total overall temperature of the mold is maintained relatively uniform and the cooling condenses the vapor or vapors derived from the single quantity of liquid used by the condensing/heat exchange means and [the] condensed liquid of the single quantity of fluid is returned solely by gravity to the [single quantity of liquid] liquid portion of the single quantity of fluid to boil at the location with the higher temperature and the resultant vapor to condense at the location with the lower temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature by providing, in the space above the liquid portion of the single quantity of fluid, said condensing/heat exchange means being adapted to have its temperature kept at a lower temperature than that of a location from which heat is to be taken this being by reason of initially having filled the completely closed chamber with the single quantity of fluid and then extracting a measured portion of the fluid from within said completely closed chamber to leave within the chamber only the single quantity of fluid, a portion of which will be in the liquid phase and the remainder of which will be in the vapor phase

26. (Currently Amended) A mold for injection molding of plastic materials having an internal cooling arrangement [which is a] and having at least one completely closed chamber partially filled with a single quantity of [liquid having an upper level sufficient that] fluid therein, the liquid portion of the fluid extends to cover at least one of the areas from which heat is to be taken, each of said at least one completely closed chamber being integrated with the mold and a space above the liquid portion of the single quantity of fluid and within the completely closed chamber in which pressure within the space is caused to be set at a level which will enable, whenever there is a temperature differential between any two locations within the chamber, the liquid portion of the single quantity of fluid to boil at the location with the higher temperature and the resultant vapor to condense at the location with the lower temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature at least some areas of the mold within the chamber adjacent to parts of the mold to be cooled are accessed by the single quantity of [liquid] fluid when the mold is in use and provided in [a] the space within the completely closed chamber above the liquid portion and the vapor is derived from the single quantity of fluid [liquid], and condensing means within said space using the same single quantity of [liquid] fluid in the completely closed chamber, and said condensing means asserting the maintenance of the selected temperature by providing, in the space above the liquid portion of the single quantity of fluid, a condenser which is adapted to have its temperature kept at a lower temperature than that of a location from which heat is to be taken this being by reason of initially having filled the completely closed chamber with the single quantity of fluid and then extracting a measured portion of the fluid from within said completely closed chamber to leave within the chamber only the single quantity of fluid, a portion of which will be in the liquid phase and the remainder of which will be in the vapor phase, said condensing means including a condensing area, a first passageway having one end forming a liquid outlet from said condensing area and a second end forming a liquid inlet to said liquid portion below said upper level and a second passageway separate from said first passageway having one end forming a vapor

outlet from said vapor above said upper level and a second end coupled to said condensing area, and vapor or vapors formed from heat of vaporization is extracted through said second passageway and the vapor is condensed into liquid in said condensing area and returned by gravity to said lower level of the liquid portion through said first passageway.

27. (Currently Amended) A mold for injection molding of plastic materials for dies and articles using dies which provides for effective heat transmission throughout the mold, the mold having an internal cooling arrangement using a single cooling [liquid] fluid and includes a completely closed chamber having air substantially removed therefrom and the liquid portion of the fluid extends to cover at least one of the areas from which heat is to be taken, each of said at least one completely closed chamber being integrated with the mold and a space above the liquid portion of the single quantity of fluid and within the completely closed chamber in which pressure within the space is caused to be set at a level which will enable, whenever there is a temperature differential between any two locations within the chamber, the liquid portion of the single quantity of fluid to boil at the location with the higher temperature and the resultant vapor to condense at the location with the lower temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature by providing, in the space above the liquid portion of the single quantity of fluid, a condenser which is adapted to have its temperature kept at a lower temperature than that of a location from which heat is to be taken this being by reason of, as a first step, having filled the completely closed chamber with the single quantity of fluid and then extracting a measured portion of the fluid within said completely closed chamber to leave within the chamber only the single quantity of fluid, a portion of which will be in the liquid phase and the remainder of which will be in the vapor phase partially filled with a vapor and partially filled with the single cooling fluid [liquid]with an upper level of sufficient height so that at least some areas of the mold within the completely closed chamber and adjacent parts of the mold to be cooled are accessed by the single cooling [liquid]fluid when the mold is in use and, in a space in

the chamber above the liquid portion of the fluid, substantially only the vapor which is derived from the single cooling [liquid]fluid , and an arrangement to provide cooling of any vapor using the single cooling [liquid]fluid within the space in the chamber above the [liquid] level of the liquid portion to effect at least some condensation of the vapor thereby so that the overall temperature of the mold is kept relatively uniform and heat is dissipated by the cooling of the vapor, said [condensing]condenser [means] including a condensing area, a first passageway having one end forming a liquid outlet from said condensing area and a second end forming a liquid inlet to said liquid portion below said upper level and a second passageway having one end forming a vapor outlet for the vapor above said upper level and a second end coupled to said condensing area, and vapor or vapors formed from heat of vaporization is extracted through said second passageway and the vapor is condensed into liquid in said condensing area and returned by gravity to said lower level of the liquid through said first passageway whereby said first and said second passageways are separate from each other.

28. (Currently Amended) A mold as in preceding claim 25 where the liquid portion is water.

29. (Previously Presented) A mold as in preceding claim 25 wherein the vapor is water vapor.

30. (Currently Amended) A mold as claimed in [either] claim 26, wherein the mold is a die, and said completely closed chamber includes said condensing means and said first and said second passageways, and at least a heating means located within the chamber within the liquid portion such that during a standby time, the temperature of the die or mold can be kept within a selected [range of] temperature[s].

31. (Currently Amended) A mold as claimed in claim 26 or 27 wherein the internal cooling arrangement additionally includes cooling means comprising a tube forming said second passageway, a core in the tube and means to direct cooling water as the single quantity of [liquid]fluid flowing through the tube.

32. (Cancelled)

33. (Previously Presented) A method of cooling of working parts of a mold for dies and molding of articles using dies wherein the mold has at least one completely closed chamber having air substantially removed therefrom and having a single quantity of liquid therein which extends to cover at least one of the areas from which heat is to be taken, each of said at least one completely closed chamber being integrated with the mold and a space above the single quantity of liquid and within the completely closed chamber in which pressure within the space is caused to be set at a level which will enable the single quantity of liquid to boil at a selected temperature, said selected temperature being at a level such that the temperature is below a temperature of the areas from which heat is to be taken this being by reason of, as a first step, filling of the completely closed chamber with the single quantity of liquid and then extracting a selected portion of the single quantity of liquid without allowing air to replace the extracted liquid, and passing at a selected cooling temperature, the single quantity of liquid through condensing means to effect, by such cooling, condensation of vapor of the single quantity of liquid in the space to return the condensed vapor to the single quantity of liquid by gravity.

34. (Currently Amended) A method as claimed in claim [32 or] 33 wherein the single quantity of liquid is water.

35. (Currently Amended) A [mold arrangement] method as claimed in claim [27]33, wherein the mold is a die, and [including] includes at least a heating means located within the completely closed chamber within the liquid such that during a standby time, the temperature of the die or mold can be kept within [a] the selected [range of] temperature[s].

36. (Currently Amended) A mold system of a type for molding of an article and requiring heat to be taken therefrom during molding of the article, said mold comprising at least one completely closed substantially uniform surface temperature maintaining chamber having air substantially excluded therefrom containing a [liquid] fluid which extends to cover at least one of the areas from which heat is to be taken, the fluid having a liquid portion and a vapor portion, and in a space above the liquid portion

of the single quantity of fluid in said chamber, and a condenser or heat exchange means which is adapted to have its temperature kept at a lower temperature than that from which heat is to be taken, whereby a measured portion of the fluid within the completely closed chamber is extracted to leave within the chamber only the liquid portion of the single quantity of fluid within the chamber with a portion of the single quantity of fluid being in the liquid phase and another portion being in the vapor phase only partially filling the chamber with substantially only the vapor of the liquid filling the remainder of the chamber, each of said at least one completely closed chamber having a space above the liquid portion of the single quantity of fluid and within the completely closed chamber,

said temperature maintaining chamber surrounding a volume or structure defining a cavity having a side in common with a wall of said chamber forming a common wall portion with said chamber and said volume or structure defining the cavity, and

at least one condenser [arrangement]or heat exchange means being positioned at an upper location of the chamber and having at least one passageway therethrough for receiving coolant therethrough, and having a wall providing substantial heat conductivity separating the chamber from said at least one passageway,

said common wall portion separating said chamber from the cavity, the wall portion having a surface shape on the chamber side that substantially conforms in shape to the adjacent surface on the cavity side and each of said at least one completely closed chamber being integrated with the mold and the space above the liquid portion of the single quantity of fluid and within the completely closed chamber in which pressure within the space is caused to be set at a level which will enable, whenever there is a temperature differential between any two locations within the chamber, the liquid portion of the single quantity of fluid to boil at the location with the higher temperature and the resultant vapor to condense at the location with the lower temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature by providing, in the space

above the liquid portion of the single quantity of fluid, said condenser or heat exchange means being adapted to have its temperature kept at a lower temperature than that of a location from which heat is to be taken this being by reason of initially having filled the completely closed chamber with the single quantity of fluid and then extracting a measured portion of the fluid from within said completely closed chamber to leave within the chamber only the single quantity of fluid, a portion of which will be in the liquid phase and the remainder of which will be in the vapor phase.

37. (Currently Amended) A mold system of a type [of]for molding of an article as claimed in claim 36, wherein said common wall portion defining the wall portion between the chamber and the cavity has a substantially uniform thickness of a consistent heat transferability material.

38. (Currently Amended) A mold system as claimed in claim 36, wherein the chamber is shaped to follow the shape of molding surfaces and positioned so that all working surfaces of the mold are serviced equally by the [liquid] fluid therein and the liquid portion will have effective access to each of the areas of the mold from which heat is to be taken and the same [liquid] fluid flows back to the body of the [liquid] fluid in the completely closed chamber whereby the temperature across the working surfaces of the mold is substantially uniform.

39. (Currently Amended) A mold system as claimed in claim36, wherein the vapor within the space in the chamber above the liquid level and the liquid level [vary]varies due to boiling of the liquid portion to thereby achieve a substantially uniform temperature profile across the working surfaces of the mold.

40. (Cancelled)

41. (Currently Amended) A mold system as claimed in claim 36, wherein the mold [is] system includes a die[,] and [including at least] heating means located within the chamber within the [liquid]] fluid such that during a standby time, the temperature of the die or mold can be kept within [a] the selected [range of] temperature[s].

42. (Currently Amended) The mold system as claimed in claim 36, wherein the liquid portion of the fluid is water used as a coolant to maintain [operating] the water temperature adjacent to hotter parts of the die below 100°C.

43. (Currently Amended) The mold system as claimed in claim 36, wherein the chamber is maintained at a uniform temperature by using the phase change properties of the liquid portion, and the cooling chamber is structured such that the distance from all points on the molding surfaces to the surfaces of the chamber are substantially equal, thereby ensuring that temperature differentials between said points and the cooling chamber are as equal as possible.

44. (New) A method of cooling of working parts of a mold for molding of articles wherein the mold has at least one completely closed chamber having air substantially excluded therefrom and having a single quantity of fluid therein, the liquid portion of the fluid extends to cover at least one of the areas from which heat is to be taken, each of said at least one completely closed chamber being integrated with the mold and a space above the liquid portion of the single quantity of fluid and within the completely closed chambers in which pressure within the space is caused to be set at a level which will enable, whenever there is a temperature differential between any two locations within the chamber, the liquid portion of the single quantity of fluid to boil at the location with the higher temperature and the resultant vapor to condense at the location with the lower temperature, such effect being used to maintain a substantially uniform temperature throughout the completely closed chamber which is also maintained at a selected temperature by providing, in the space above the liquid portion of the single quantity of fluid, a condenser which is adapted to have its temperature kept at a lower temperature than that of a location from which heat is to be taken this being by reason of, as a first step, having filled the completely closed chamber with the single quantity of fluid and then extracting a measured portion of the fluid within said completely closed chamber to leave within the chamber only the single quantity of fluid, a portion of which will be in the liquid phase and the remainder of which will be in the vapor phase.

45. (New) A method as claimed in claim 44, where there is an arrangement within the completely closed chamber whereby the vapor of the single quantity of fluid is caused to be condensed by heat transfer to the condenser and to then return as liquid to the liquid portion of the single quantity of fluid.